

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/505,141

REMARKS

Review and reconsideration on the merits are requested.

Claim Status

At the time of rejection, claims 1-12 were pending.

Claims 3-5, 8, 9 and 10 were allowed, the remaining claims being rejected.

Applicants appreciate the Examiner indicating that claims 3, 4, 5, 8, 9 and 11 are free of the prior art

Formalities

Applicants appreciate the Examiner acknowledging receipt of copies of certified copies of the priority documents and returning PTO/SB/08/ of August 20, 2004.

The Prior Art

Japan Patent Document No. 2002/53,321A (JP ‘321).

U.S. Patent 6,706,444 B1 Numata et al (Numata).

The Rejections

Claims 1, 2, 6, 7 and 12 were rejected under 35 U.S.C. § 102(b) as anticipated by JP ‘321.

Claims 6, 7 and 10 were rejected under 35 U.S.C. § 102(e) as being anticipated by Numata.

It is noted claims 6 and 12 depend from claim 1.

The Examiner’s position is set forth in the Action and will not be repeated here except as necessary to an understanding of Applicants’ traversal which is now presented.

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Traversal

In JP ‘321, a lithium-manganese composite oxide is described which is in a secondary particle form of “grape clusters” obtained by aggregating substantially spherical primary particles, and which has a secondary particle diameter of from 1 to 100 μm and a specific surface area of from 0.1 to 10 m^2/g . See claim 1 thereof and Abstract.

The granular secondary particles of a lithium-manganese composite oxide of the present application are identical to JP ‘321 with respect to secondary particle formation via aggregation of crystalline primary particles, as set forth in claim 1. However, while the shape of the secondary particles in JP ‘321 is that of a “grape cluster,” the shape in the present application is spherical as can be seen from Fig. 2 thereof. Thus, the shape of the secondary particles differs from that of the present application.

Further, while the granular secondary particles of the present application have many micrometer-size open voids therein, as set forth in claim 1, JP ‘321 is completely silent regarding the presence of **any** micrometer-size open voids.

Still further, while the primary particle diameter in JP ‘321 ranges from 0.1 to 0.2 μm as set forth in claim 2, the corresponding value in the present application is from 0.5 to 4.0 μm as set forth in claim 2. Thus, the primary particle diameter is also different and there is no overlap.

From these facts, the granular secondary particles of a lithium-manganese composite oxide defined by claims 1 and 2 of the present application and the lithium-manganese composite oxide according to JP ‘321 are completely different granular secondary particles of a lithium-

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manganese composite oxide, since the two types are different in shape, the presence or absence of open voids and the primary particle diameter.

In order to pose a proper anticipation rejection, it is necessary that a reference either explicitly or implicitly, (inherently) disclose all limits of the rejected claim(s). Here, JP ‘321 is silent on any open voids, and the Examiner has offered no reasoning to support inherency (implicit disclosure) on this point.

Further, **explicitly**, the primary particle diameter in JP ‘321 differs from that of the present claims.

Of the claims rejected over JP ‘321, claims 1 and 2 are granular secondary particle claims, 6 and 7 are process claims and claim 12 is directed to a secondary battery which depends from claim 1.

Applicants now turn to the process claims.

A comparison of the production method of the granular secondary particles of a lithium-manganese composite oxide defined in claim 6 of the present application with that as set forth in claim 3 of JP ‘321 shows that while in the present application a slurry obtained by dispersing a fine powder of a manganese oxide, and a fine powder of lithium carbonate, or a compound containing one or more elements from Al, Co, Ni, Cr, Fe, and Mg are spray-dried to achieve granulation followed by calcination at a temperature ranging from 700 to 900°C, in JP ‘321 ε -MnO₂ and a water-soluble lithium compound are blended by a wet process, dried and heat-treated at a temperature ranging from 500 to 900°C, whereby the shape of the original ε -MnO₂ is

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maintained. This comparison shows that, in contrast to the present application wherein a slurry is spray-dried to provide granules and reform the granular shape to be spherical, JP ‘321 does not include any spray-drying of a slurry.

Since claim 6 **explicitly** recites spray-drying and JP ‘321 is silent on this point, quite clearly an anticipation rejection of claim 6 based on JP ‘321 is improper.

With respect to the non-aqueous electrolyte secondary battery defined in claim 12 of the present application and the lithium secondary battery of claim 2 of JP ‘321, the lithium-manganese composite oxide used as a positive active material is different in shape, the presence or absence of open voids and in primary particle diameter between the present application and JP ‘321, as earlier stated with respect to claim 1 from which claim 12 depends.

From the above discussion, it is easily seen that the secondary granular particles of lithium-manganese composite oxide, the process for producing the same and the non-aqueous electrolyte secondary battery using the same as a positive active material set forth in the rejected claims differ from the disclosure of JP ‘321, i.e., for the reasons advanced above any anticipation rejection of claims 1, 2, 6, 7 and 12 over JP ‘321 is improper.

Applicants now address the rejection of claims 6, 7 and 10 as anticipated by Numata. These claims are all process claims.

A comparison of the production method set forth in Numata with that of claim 6 of the present application shows that while Numata states a manganese dioxide with an average diameter of 5 to 30 μm is preferred at col. 3, line 15, the present application claims manganese

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oxide and lithium carbonate with an average particle diameter of 1 μm or smaller in claim 7.

Thus, the average particle diameters of the manganese oxide and lithium carbonate are different.

Since the rejection of claims 6, 7 and 10 is an anticipation rejection, Applicants combine claims 6 and 7, whereby for the reasons advanced above, they have avoided the anticipation rejection of claim 6 (claim 7 is canceled), and claim 10 which depends from claim 6.

While Numata discloses the metals recited in claim 6, claim 10 of the present application is dependent from claim 6 and claim 6, as now amended, is completely different in particle diameter of manganese dioxide from Numata. As a consequence, claim 10 is not properly rejected as anticipated over Numata.

Withdrawal of the anticipation rejections is in order, and the same is requested.

With respect to the Abstract, a new Abstract is provided.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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